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1,3-Dipolar cycloaddition of C-Benzoyl-N-phenyl- and C,N-diphenylnitrones to β-substituted vinylphosphonates

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Abstract

1. The 1,3-dipolar cycloaddition of C,N-diphenyl- and C-benzoyl-N-phenylnitrones to diethyl β,β-diacetylvinylphosphonate yields trans-2,3-diphenyl-4-diethoxyphospho-o-5-5-diacetylisoxazolidine and trans-2-phenyl-3-benzoyl-4-diethoxyphosph-no-5,5-diacetylisoxazolidine, respectively. 2. C-Benzoyl-N-phenylnitrone reacts with diethyl β-phenylvinylphosphonate to form transtrans-2,5-diphenyl-3-benz-yl-4-diethoxyphosphonoisoxazolidine, and it reacts with dimethyl β-ethoxyvinylphosphonate to form trans-trans-2-phenyl-3-benzoyl-4-dimethoxyphosphono-5-ethoxy-isoxazolidine. 3. As the electrophilic character of the double bond in the β-substituted vinylphosphonates is enhanced, their reactivity in 1,3-dipolar cycloaddition to nitrones increases. © 1979 Plenum Publishing Corporation.

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